

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A copying system comprising:

a scanner module formed as an independent frame, comprising,

an image reading means for reading a manuscript picture by resolving a picture image into pixels and generating image data,

a first data I/O means which is a first I/O interface for said image data and control data, and

a first synchronizing signal generating means, for generating a first synchronization signal, comprising a first crystal oscillator,

wherein said first I/O interface receives said image data and said first synchronization signal and transfers said control data to said image reading means and said first synchronization signal generating means, and said image reading means receives said first synchronization signal;

a printer module formed as an independent frame, comprising,

an image forming means for forming and outputting said image data as a permanent visual image on a recording medium,

a second data I/O means which is a second I/O interface for said image data and said control data, and

a second synchronizing signal generating means, for generating a second synchronization signal, comprising a second crystal oscillator,

wherein said second I/O interface receives said image data and said second synchronization signal and transfers said control data to said image forming means and said second synchronization signal generating means, and said image forming means receives said second synchronization signal; and

a system control module formed as an independent frame, comprising,  
a third data I/O means which is a third I/O interface for said image data and  
said control data, and  
a system control means for controlling said scanner module and said printer  
module synchronously and generating said control data;  
said third I/O interface transferring said control data to said first and second I/O  
interfaces; and  
said first and second crystal oscillator having substantially a same frequency, so that  
said first and second synchronization signals and said image reading and image forming  
means are synchronized with each other for maintaining coincidence between cycles and  
header phases of said image data that is read and formed.

Claim 2 (Original): A copying system according to claim 1, wherein said frame for  
said system control module is integrated with said frame of said scanner module or said  
frame of said printer module.

Claim 3 (Original): A copying system according to claim 1, further comprising a  
coupling means for fixing said frame of said system control module and said frame of said  
printer module or said scanner module so as to align said third data I/O section with said first  
and second data I/O sections.

Claim 4 (Original): A copying system according to claim 1, comprising a first  
electric power supply means in said frame of said scanner module and a second electric  
power supply means in said frame of said printer module and wherein said system control  
module receives power from said first or second power supply means.

Claim 5 (Original): A copying system according to claim 1, wherein  
said scanner module, printer module and system control module further comprise a  
transmitting and receiving means for transmitting and receiving said image and control data,  
each module is provided at a specified position by said fixing means so that said first,  
second, and third data I/O sections provided in each module are aligned through a space for  
data reception and transmission by means of any one of light waves, electric waves, and sonic  
waves through said space.

Claim 6 (Original): A copying system comprising:  
a scanner module, formed as an independent frame, comprising,  
an image reader configured to read a manuscript picture by resolving a picture  
image into pixels, and configured to generate image data,  
a first data I/O device configured as a first I/O interface for said image data and  
control data, and  
a first synchronizing signal generator, configured to generate a first  
synchronization signal which controls operational timing of said image reader,  
comprising a first crystal oscillator,  
wherein said first I/O interface receives said image data and said first synchronization  
signal and transfers said control data to said image reader and said first synchronization  
signal generator, and said image reader receives said first synchronization signal;  
a printer module, formed as an independent frame, comprising,  
an image former configured to form and output said image data as a  
permanent visual image on a recording medium,

a second data I/O device configured as a second I/O interface for said image data and said control data, and

a second synchronizing signal generator, configured to generate a second synchronization signal which controls operational timing of said image former, comprising a second crystal oscillator,

wherein said second I/O interface receives said image data and said second synchronization signal and transfers said control data to said image former and said second synchronization signal generator, and said image former receives said second synchronization signal; and

a system control module, formed as an independent frame, comprising,

a third data I/O device configured as a third I/O interface for said image data and said control data, and

a system controller configured to control said scanner module and said printer module synchronously, and to generate said control data;

said third I/O interface transferring said control data to said first and second I/O interfaces; and

said first and second crystal oscillator having substantially a same frequency, so that said first and second synchronization signals and said image reader and image former are synchronized with each other, and configured to maintain coincidence between cycles and header phases of said image data that is read and formed.

Claim 7 (Original): A copying system according to claim 6, comprising:

a scanner module in which the first I/O interface includes an SCSI interface; and

a host computer including an SCSI interface;

wherein

the copying system is configured as a scanner and the first I/O interface directly communicates with the host computer via the SCSI interface to deliver read image data.

Claim 8 (Original): A copying system according to claim 6, comprising:  
a printer module in which the second I/O interface includes an SCSI interface; and  
a host computer including an SCSI interface;  
wherein

the copying system is configured as a bit-map laser printer and the second I/O interface directly communicates with the host computer via the SCSI interface to obtain image data from the host computer to form a hard copy.

Claim 9 (Original): A copying system according to claim 6, comprising:  
a scanner module in which the first I/O interface includes an SCSI interface;  
a printer module in which the second I/O interface includes first and second SCSI interfaces; and  
a system control module in which the third I/O interface includes an SCSI interface, including a copy processor;  
wherein

the copying system is configured as a general copying machine, the scanner module is connected to the printer module via the first SCSI interface, the system control module is connected to the control module via the second SCSI interface, and the copy processor of the system control module controls the scanner module and the printer module to realize the general copying function.

Claim 10 (Original): A copying system according to claim 6, comprising:

a first scanner module in which the first I/O interface includes an SCSI interface, configured to handle a first paper size; and

a second scanner module in which the first I/O interface includes first and second SCSI interfaces, configured to handle a second paper size;

a third scanner modules in which the first I/O interface includes first and second SCSI interfaces, configured as a color scanner;

a printer module in which the second I/O interface includes first and second SCSI interfaces; and

a system control module in which the third I/O interface includes an SCSI interface, including a copy processor;

wherein

the copying system is configured as a triple read copying machine, the SCSI interface of the first scanner module is connected to the first SCSI interface of the second scanner module, the second SCSI interface of the second scanner module is connected to the first SCSI interface of the third scanner module, the second SCSI interface of the third scanner module is connected to the first SCSI interface of the printer module, the second SCSI interface of the printer module is connected to the SCSI interface of the system control module, and the copy processor of the system control module controls the first, second and third scanner modules and the printer module to realize the triple read copying function.

Claim 11 (Original): A copying system according to claim 6, comprising:

a scanner module in which the first I/O interface includes an SCSI interface, configured as a color scanner;

a printer module in which the second I/O interface includes first and second SCSI interfaces;

a system control module in which the third I/O interface includes an SCSI interface module, including a computer interface port, a printer processor, an ISDN interface, and a color facsimile processor; and

a host computer including an computer interface port;

wherein

the copying system is configured as a high performance copier, color printer, and facsimile hybrid system, the scanner module is connected to the first SCSI interface of the printer module, the second SCSI interface of the printer module is connected to the SCSI interface of the system control module, the system control module is connected to the host computer via the computer interface port, the system control module is connected to a public ISDN line via the ISDN interface, and the printer processor converts print data in a page description language format received from the computer interface port to raster data, the color facsimile processor extracts data in a specified compression format received from the ISDN interface and compresses image data read by the scanner module in a specified format to realize the high performance copier, color printer, and facsimile hybrid system.

Claim 12 (Currently Amended): An image forming system, comprising:

a printer module, including:

a printer engine;

a printer controller connected to the printer engine;

a power supply having an input and an output;

a first signal generator configured to generate a first synchronization signal  
and including a first crystal oscillator; and  
a first frame,  
a scanner module, including:  
a scanner engine;  
a scanner controller connected to the scanner engine;  
a power input for connection to the output of the power supply of the printer  
module;  
a second signal generator configured to generate a second synchronization  
signal and including a second crystal oscillator; and  
a second frame, different from the first frame; and  
a user interface connected to the scanner module and the printer module,  
wherein the first and second crystal oscillators have substantially a same frequency,  
so that the first and second synchronization signals and the printer engine and the scanner  
engine are synchronized with each other, and  
the printer module and the scanner module are stacked one upon another in a stack,  
and the scanner module is at an uppermost position of the stack.

Claim 13 (Previously Presented): An image forming system according to claim 12,  
wherein:

the user interface is incorporated in the scanner module.

Claim 14 (Previously Presented): An image forming system according to claim 13,  
wherein:



the user interface includes a display which displays a state of the printer module and the scanner module.

Claim 15 (Previously Presented): An image forming system according to claim 14, further comprising:

at least one cable which is a minimum number of cables connecting the printer module and the scanner module.

Claim 16 (Previously Presented): An image forming system according to claim 14, further comprising:

a cable connecting the output of the power supply of the printer module to the power input of the scanner module.

Claim 17 (Previously Presented): An image forming system according to claim 14, wherein:

the display comprises a bit map display.

Claim 18 (Previously Presented): An image forming system according to claim 14, wherein:

the first and second frames are independent of each other.

Claim 19 (Previously Presented): An image forming system according to claim 14, wherein:

the first and second frames are structurally separate.

Claim 20 (Previously Presented): An image forming system according to claim 14,  
wherein the input of the power supply comprises:

an input for connection to commercial electric power.

Claim 21 (Previously Presented): An image forming system according to claim 12,  
wherein:

the user interface is incorporated in the printer module.

Claim 22 (Previously Presented): An image forming system according to claim 12,  
wherein:

the user interface includes a display which displays a state of the printer module and  
the scanner module.

Claim 23 (Previously Presented): An image forming system according to claim 12,  
further comprising:

at least one cable which is a minimum number of cables connecting the printer  
module and the scanner module.

Claim 24 (Previously Presented): An image forming system according to claim 12,  
further comprising:

a cable connecting the output of the power supply of the printer module to the power  
input of the scanner module.

Claim 25 (Previously Presented): An image forming system according to claim 12,  
wherein:

the display comprises a bit map display.

Claim 26 (Previously Presented): An image forming system according to claim 12,  
wherein:

the first and second frames are independent of each other.

Claim 27 (Previously Presented): An image forming system according to claim 12,  
wherein:

the first and second frames are structurally separate.

Claim 28 (Previously Presented): An image forming system according to claim 12,  
wherein the user interface comprises:

a key pad; and

a display.

Claim 29 (Previously Presented): An image forming system according to claim 12,  
wherein the input of the power supply comprises:

an input for connection to commercial electric power.

Claim 30 (Currently Amended): An image forming system, comprising:  
a printer module, including:

means for generating a printed image on a piece of paper;

print control means, connected to the means for generating, for controlling an  
operation of generating the printed image;

means for supplying power having an input means for inputting and an output  
means for outputting;

first means for generating a first synchronization signal and including a first  
crystal oscillator; and

first means for supporting elements of the printer module including the means  
for generating, the print control means, and the means for supplying power,  
a scanner module, including:

means for scanning an image;

a scanner control means which controls an operation of the means for  
scanning;

a power input means for inputting power to the scanner module from  
the means for supplying power of the printer module and for connection to the  
output means of the power supply of the printer module;

second means for generating a second synchronization signal and including a  
second crystal oscillator; and

second means for supporting elements of the scanner module including  
the means for scanning and the scanner control means, said second means for  
supporting being different from the first means for supporting; and  
means for interfacing with a user, connected to the scanner module and the printer  
module,

wherein the first and second means for generating the first and second  
synchronization signals have substantially a same frequency, so that the first and second  
synchronization signals and the means for generating and the means for scanning the image  
are synchronized with each other, and

the printer module and the scanner module are stacked one upon another in a stack, and the scanner module is at an uppermost position of the stack.

Claim 31 (Previously Presented): An image forming system according to claim 30, wherein:

the means for interfacing is incorporated in the scanner module.

Claim 32 (Previously Presented): An image forming system according to claim 31, wherein:

the means for interfacing including includes a means for displaying a state of the printer module and the scanner module.

Claim 33 (Previously Presented): An image forming system according to claim 32, further comprising:

means for connecting the printer module to the scanner module, said means for connecting including at least one cable which is a minimum number of cables connecting the printer module and the scanner module.

Claim 34 (Previously Presented): An image forming system according to claim 32, further comprising:

a connection means for connecting the output means of the means for supplying power of the printer module to the power input means of the scanner module.

Claim 35 (Previously Presented): An image forming system according to claim 32, wherein:

the means for displaying comprises a bit map display.

Claim 36 (Previously Presented): An image forming system according to claim 32,  
wherein:

the first and second means for supporting are independent of each other.

Claim 37 (Previously Presented): An image forming system according to claim 32,  
wherein:

the first and second means for supporting are structurally separate.

Claim 38 (Previously Presented): An image forming system according to claim 32,  
wherein the input means of the means for supplying power comprises:

an input means for connecting to and inputting commercial electric power.

Claim 39 (Previously Presented): An image forming system according to claim 30,  
wherein:

the means for interfacing is incorporated in the printer module.

Claim 40 (Previously Presented): An image forming system according to claim 30,  
wherein:

the means for interfacing includes a means for displaying a state of the printer module  
and the scanner module.

Claim 41 (Previously Presented): An image forming system according to claim 30,  
further comprising:

means for connecting the printer module to the scanner module, said means for connecting including at least one cable which is a minimum number of cables connecting the printer module and the scanner module.

Claim 42 (Previously Presented): An image forming system according to claim 30, further comprising:

a connection means for connecting the output means of the means for supplying power of the printer module to the power input means of the scanner module.

Claim 43 (Previously Presented): An image forming system according to claim 30, wherein:

the means for displaying comprises a bit map display.

Claim 44 (Previously Presented): An image forming system according to claim 30, wherein:

the first and second means for supporting are independent of each other.

Claim 45 (Previously Presented): An image forming system according to claim 30, wherein:

the first and second means for supporting are structurally separate.

Claim 46 (Previously Presented): An image forming system according to claim 30, wherein the user interface comprises:

an input means for inputting information from a user; and  
means for displaying information to the user.

Claim 47 (Previously Presented): An image forming system according to claim 30,  
wherein the input means of the means for supplying power comprises:

an input means for connecting to and inputting commercial electric power.

Claim 48 (Previously Presented): An image forming system comprising:

a scanner module, including:

a scanner engine for generating image data;

a scanner controller connected to the scanner engine;

a power input for connection to the output of a power supply of a printer  
module;

a user interface connected to the scanner module and the printer module;

a first synchronizing signal generating means, for generating a first  
synchronization signal, comprising a first crystal oscillator, wherein said interface  
receives said image data and said first synchronization signal and transfers said  
control data to said scanner engine and said first synchronization signal generating  
means, and said image scanner engine receives said first synchronization signal;  
said printer module, including:

a printer engine;

a printer controller connected to the printer engine;

a power supply having an input and an output;

a second synchronization signal generating means, for generating a second  
synchronization signal, comprising a second crystal oscillator,

wherein said second interface receives said image data and said second  
synchronization signal and transfers said control data to said printer engine and said



second synchronization signal generating means, and said printer engine receives said second synchronization signal; and  
a system control module formed as an independent frame, comprising:  
a third data interface means;  
a system control means for controlling said scanner module and said printer module synchronously and generating said control data, said third interface transferring said control data to the interface and the second interface, and said first and second crystal oscillator having substantially a same frequency, so that said first and second synchronization signals and said image reading and image forming means are synchronized with each other for maintaining coincidence between cycles and header phases of said image data that is read and formed.

Claim 49 (Previously Presented): An image forming system, comprising:

a scanner module, including:

means for scanning an image and generating image data;  
scanner control means for controlling an operation of the means for scanning;  
a power input means for inputting power to the scanner module from means for supplying power of a printer module and for connection to output means of a power supply of the printer module;  
second means for supporting elements of the scanner module including the means for scanning and the scanner control means, said second means for supporting different from the first means for supporting; and  
means for interfacing with a user, connected to the scanner module and a printer module;

said scanner module further comprising a first synchronizing signal generating means, for generating a first synchronization signal, comprising a first crystal oscillator, wherein the means for interfacing receives image the generating image data and said first synchronization signal and transfers said control data to said image reading means and said first synchronization signal generating means, and said image reading means receives said first synchronization signal interface,

said printer module including:

means for generating a printed image on a piece of paper;

print control means, connected to the means for generating, for controlling an operation of generating the printed image;

means for supplying power having an input means for inputting and an output means for outputting;

means for supporting elements of the printer module including the means for generating, the print control means, and the means for supplying power;

a second interface;

a second synchronizing signal generating means for generating a second synchronization signal, comprising a second crystal oscillator, wherein said second interface receives said generating image data and said second synchronization signal and transfers said control data to said means for generating a printed image and said second synchronization signal generating means, and said image forming means receives said second synchronization signal;

a system control module formed as an independent frame, comprising:

a third data interface;

a system control means for controlling said scanner module and said printer module synchronously and generating said control data,

said third interface transferring said control data to said means for interfacing with the user and the second interface, and said first and second crystal oscillators having substantially a same frequency, so that said first and second synchronization signals and said image reading and image forming means are synchronized with each read other for maintaining coincidence between cycles and header phases of said image data that is scanned and formed.